



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,615	11/12/2003	Jorn Macritz	10808/113	5864

48581 7590 11/01/2004

BRINKS HOFER GILSON & LIONE  
INFINEON  
PO BOX 10395  
CHICAGO, IL 60610

EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
----------	--------------

2125

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

## Application No.

10/706,615

## Applicant(s)

MAERITZ, JORN

## Examiner

Zoila E. Cabrera

## Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/28/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miller et al. (US 6,556,884)** in view of **Gorin (US 6,442,499)**.

Regarding claim 1, **Miller** discloses a run-to-run method for the computer-aided monitoring and controlling of a manufacturing process of a plurality of wafers, the method comprising the step of:

- subject a plurality of wafers to at least one manufacturing step (Fig. 1, elements 105, 110, 112); subject the wafer to an inline SPC measurement (Col. 6, lines 64- Col. 7, line 4, i.e., real-time SPC); controlling the manufacturing process on the basis of the result of the inline SPC measurement of the wafer (Col. 6, line 64 – Col. 7, line 12); and selecting **at least one wafer** necessary for the run-to-run method and also for the inline SPC method (Col. 9 lines 66 – Col. 10, line 1, i.e., integrating APC and SPC; Col. 10, lines 9-11, i.e., APC includes run-to-run controllers; Col. 10, lines 14-16; Col. 10, lines 56-63, i.e., the production data resulting from the APC analysis and the SPC).

Regarding claims 1 and 2, **Miller** discloses the limitations of claim 1 above and further discloses that an APC analysis and an SPC analysis are performed *at a time*

Art Unit: 2125

*period during and after processing of the semiconductor wafers (Col. 10, lines 1-20, please note that wafers would be randomly selected during a determined period).*

However, **Miller** fails to specifically disclose, regarding claim 1, mark (or select) at least one of the processed wafers according to a *deterministic selection criterion*; and selecting *according to a deterministic selection criterion*; and regarding claim 2, the deterministic selection criterion is determined by means of rules. However, **Gorin** discloses selecting components (or wafers) for testing according to a deterministic selection criterion (Col. 3, line 62 – Col. 4, line 4; Col. 4, lines 8-14). **Gorin** further discloses that the deterministic selection criterion is determined by means of rules (Col. 3, line 62 – Col. 4, line 4; Col. 4, lines 8-14).

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the method for integrating an APC (including run-to-run controllers) framework and an SPC framework as taught by **Miller** with the statistical process control of test of **Gorin** because it would provide an improved semiconductor testing by optimizing test time for automatic test equipment.

As for claims 3, the same limitations applied to claim 1 above apply as well for this claim.

As for claims 4-5, the same limitations applied to claim 1 above apply as well for these claims (please note that the limitation “code” would read on a computer program as taught by Miller (Col. 9, lines 11-13; Col. 11, lines 14-24).

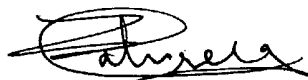
Art Unit: 2125

**Conclusion**

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (703) 306-4768. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. Additionally, the fax phones for Art Unit 2125 are (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

A handwritten signature in black ink, appearing to read 'Zoila Cabrera', with a stylized flourish at the end.

Zoila Cabrera  
Patent Examiner  
10/30/04